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ASSESSMENT OF RURAL MEXICAN-AMERICAN PUPILS, PRESCHOOL AND GRADES ONE THROUGH TWELVE, WASCO, CALIFORNIA.

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MEXICAN-AMERICAN STUDENTS FROM 13 GRADE LEVELS WITHIN THE WASCO, CALIFORNIA, PUBLIC SCHOOLS WERE TESTED IN MARCH, 1967, AS PART OF AN EVALUATION OF STRENGTHS AND WEAKNESSES OF RURAL MEXICAN-AMERICAN STUDENTS IN CALIFORNIA. ANALYSIS OF TEST RESULTS REVEALED THAT MEXICAN-AMERICAN STUDENTS FELL PROGRESSIVELY BEHIND IN PERCEPTUAL MOTOR DEVELOPMENT--A DEFICIT ATTRIBUTED TO BOTH HOME AND SCHOOL ENVIRONMENTS. LOW SELF-CONCEPT SCORES AND ABOVE-NORMAL SOCIAL MATURITY SCORES MAY HAVE REFLECTED THE DEMANDS OF 2 CULTURES ON THE MEXICAN-AMERICAN STUDENT. ACADEMIC ACHIEVEMENT PROGRESSIVELY DECLINED, POSSIBLY AS A RESULT OF THE DE-EMPHASIZING OF INDIVIDUALIZED INSTRUCTION AND THE ABSTRACTION DEMANDS MADE ON MEXICAN-AMERICAN STUDENTS BY MATERIALS GEARED TO MIDDLE-CLASS NORMS. TABLES SHOW WHICH TESTS WERE GIVEN TO WHICH GRADE LEVELS, AGE-GRADE RELATIONSHIPS, AND RESULTS BY INDIVIDUAL TEST. RELATED DOCUMENTS ARE RC 002 539 AND RC 001 775. (JEH)

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Preschool and Grades One Through Twelve

Wasco, California

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CALIFORNIA STATE DEPARTMENT OF EDUCATION
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Assessment of Rural Mexican-American Pupils

Preschool and Grades One Through Twelve

Wasco, California

A Report Prepared for

the California State Department of Education
Mexican-American Research Project
John Plakos, Director

By
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PREFACE

The California State Department of Education has been interested and concerned with the problem of effectively educating the large portion of Mexican-American children in California's public schools. One of the greatest areas of concern lies in accurately assessing the strengths and needs of these children since a great number of them have serious English language deficits or are essentially non-English speaking.

The Wasco study represents an attempt to assess accurately and totally the strengths and needs of rural Mexican-American students in the San Joaquin Valley region. The information gathered from this study was used to develop a comprehensive educational program for Mexican-American students in Wasco and is in the process of being used for the development of several other educational programs in the San Joaquin Valley area.

We are far from our stated goal of accurately and completely assessing the needs of the Mexican-American student, but the Wasco study promises to be a big step forward.

The Department would like to extend its thanks to the Wasco Union High School District and the Wasco Union Elementary School District for their cooperation and assistance in this study.

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Associate Superintendent of
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I. INTRODUCTION

The California Mexican-American Education Research Project, with the cooperation of the Title III Kern County Research Project and the Wasco Elementary School and the Wasco Union High School Districts, initiated a research project directed at more effectively educating Mexican-American students in the Wasco public schools and throughout the state of California. As a part of this research proposal, a specific assessment project was undertaken for purposes of aiding these educational agencies in their efforts to select and develop curricular approaches and techniques which would be suited to the needs of the Mexican-American student population.

This assessment project was directed in part toward the following questions:

(1) What types of additional curricular approaches and materials would be appropriate for this population?

(2) What kinds of educational techniques in addition to those currently in use are most relevant to this population?

Purpose

The purpose of this assessment project was to evaluate the educationally relevant strengths and weaknesses of this Mexican-American student population both in relation to themselves and to the culture-at-large. The underlying assumption has been that the cultural patterns which constitute the life style of the rural Mexican-American of the area are sufficiently divergent from those of the culture-at-large that special educational consideration for these students is warranted.

The outgrowth of this evaluation is intended to suggest both curricular approaches and specific educational techniques appropriate to this student population.

In light of the foregoing statement of purpose, answers were sought to the following questions:

(1) In which areas does this population fall significantly above or below general population norms?

(2) At which grade levels do divergent developmental changes occur?

(3) Are emergent developmental patterns apparent which might lead to the development of hypotheses concerning the etiology of these divergencies?

Population

The sample chosen for this study was randomly selected from those students with Spanish surnames attending Wasco public schools. Twelve were originally selected from each grade, pre-school through twelve, and the use of occasional substitutes raised this to thirteen. As far as possible, an equal number of males and females was chosen for each grade level.

The subsample, to whom were given a battery of individual tests, were randomly chosen from the sample in grades pre-school through first, fourth through sixth, and eighth through twelfth.

Wasco, California, is an agricultural community of about 7,900 people, located 27 miles northwest of Bakersfield in Kern County. Major crops in Wasco are potatoes, cotton, and sugar beets; other crops include grapes, alfalfa, onions, and corn.

Wasco schools consist of two public elementary schools (pre-school through fifth), one junior high school (sixth through eighth), and one high school (ninth through twelfth). There is also one Catholic elementary school (first through eighth).

The population includes approximately 30 per cent Mexican-Americans and 15 per cent Negroes. A labor camp on the edge of town houses migrant workers throughout the spring and summer and into the fall.

II. INSTRUMENTATION

It is recognized by the writers that any standardized testing to be done among subgroups of the general population, such as Mexican-Americans, is at best hazardous and at worst untenable. With this caution in mind, several instruments were chosen only after a careful selection process taking into account both the areas to be assessed and limitations inherent in the testing situation, such as time, expense, and competencies of testing personnel. In making these selections the writers kept one principle foremost in their consideration: the purpose for the testing is diagnostic and is intended to yield data helpful in developing remedial and developmental programs designed to enable the Mexican-American student to participate more effectively in the social-educational-cultural milieux of American public education. Given this principle for instrument selection, the writers feel that the standardized tests chosen were not only justified but warranted in order to provide the kinds of information needed to fulfill this objective.

Areas of Measurement

Three critical areas of childhood and adolescent development were selected for measurement:

(1) Perceptual-Motor

(2) Social-Emotional

(3) Intellectual-Academic

Instruments designed to measure characteristics in these areas were carefully selected because of their usefulness and appropriateness to the assessment objectives. A short description of each test follows:

I. Perceptual-Motor

A. Frostig Developmental Test of Visual Perception

This instrument evaluates the perceptual skills of young children by yielding scaled scores in five perceptual areas, enabling the examiner to identify both strengths and handicaps. These areas are: (1) Eye Motor Coordination; (2) Figure Ground; (3) Constancy of Shape; (4) Position in Space; and (5) Spatial Relationships.

B. Bender Visual Motor Gestalt Test

This test is one of perception and visual-motor functioning and involves sensory reception, interpretation at the central levels of the nervous system, and motor performance.

II. Social-Emotional

A. California Test of Personality

Consisting of two sections, the first part indicates how the student thinks and feels about himself, his estimate of his own worth, his sense of personal freedom, and his feeling of belonging. Part two consists of social adjustment components; how he functions as a social being, and how he feels about social standards, social skills, family, school, and community relationships.

B. Vineland Social Maturity Scale

This scale measures progressive maturation and adjustment to the environment in the following categories: self-help, self-direction, locomotion, occupation, communication, and socialization.

III. Intellectual-Academic

A. California Test of Mental Maturity - Short Form

This test yields language, non-language, and total scores in I.Q., M.A., and percentile ranks.

B. Goodenough-Harris Drawing Test

A non-verbal mental ability test.

C. Wechsler Intelligence Scale for Children; Wechsler Adult Intelligence Scale

These are individually administered tests of intelligence that yield scores on both verbal and performance sections.

D. California Achievement Test and Multiple Aptitude Tests

Although not chosen by the writers, current scores on these instruments were made available by the schools and incorporated into the study. Both instruments yield information in three areas: reading, language, and arithmetic. The C.A.T. data are reported in grade placement form, while the M.A.T. data are reported in percentile rank.

Procedure

Students were selected from thirteen grade levels within the Wasco public schools, pre-school through high school inclusive. Approximately 13 students were randomly selected from each grade level for a total of 171. Absenteeism and availability of sufficient numbers of Mexican-American students in each grade level caused this number to vary by one or two in different grades.

The entire sample of grades checked was administered each group test listed on Table I. This includes some test data that was made available from the cumulative records of the students and was obtained no more than six months prior to the date of this project.

From the sample of 171, a smaller sample of 44 was selected for in-depth testing. Four students were randomly chosen from the sample in each of the following grades: pre-school, kindergarten, first, fourth, fifth, sixth, eighth, ninth, tenth, eleventh, and twelfth. This selection was made by the writers and local school administrators on the basis of usefulness of findings as well as practical considerations. Test batteries given to this subgroup included the Bender Visual Motor Gestalt Test, Vineland Social Maturity Scale, and the WISC or WAIS.

It will be observed that not all 171 students received tests in each of the three areas which were measured. Information in the perceptual-motor area was not deemed pertinent beyond the sixth grade; likewise, tests measuring academic achievement and aptitude were not considered useful in the very early grades (pre-school, kindergarten, and first). These exceptions were made in part because of the limited usefulness of the data and in part because of the inability of present tests to measure accurately in these areas.

Testing was conducted both by local school personnel and a team of psychologists who went to Wasco specifically for this project. Five days were set aside for the testing, and virtually all of the individual batteries were administered during this period (February 27 - March 3). Some of the group testing was conducted prior to this time while the remainder took place during these days.

The cooperation of local school personnel could not have been more sincere or enthusiastic. Both of the writers, who were present during the testing period, and the other testing specialists were impressed with the degree of cooperation provided by school administrators, guidance personnel, and teachers. It should also be noted that the Mexican-American subjects who underwent testing seemed appreciative of the special attention that was given them during this week.

Among the problems encountered during the testing program, the usual rate of absenteeism prevailed and an occasional mix-up in schedules occurred. Whenever possible, make-up tests were administered. Children unable to speak English were referred to Spanish-speaking psychologists for testing. (Most testing of non-English-speaking children was conducted by Dr. Palomares.)

Limitations of the Study

(1) No comparable sample of Anglos was tested for comparative purposes; rather, use was made of general normative data reflective of the total population-at-large. This limitation may lead to the question: "to what extent are the Mexican-American characteristics indicative of the whole population?"

TABLE I

TESTS ADMINISTERED BY GRADE

	Perceptual Motor		Social Emotional		Intellectual Academic				
	Total Sample	Sub Sample	Total Sample	Sub Sample	Total Sample	Total Sample	Total Sample	Sub Sample	Sub Sample
	Frostig	Bender	C.T.P.	Vineland	C.T.M.M.	C.A.T.	M.A.T.	Goodenough Harris	WISC WAIS
PRE	X	X		X				X	
K	X	X		X				X	
1	X	X	X	X	X			X	
2	X	X	X		X	X		X	
3	X	X	X		X	X		X	
4	X	X	X	X	X	X		X	X
5	X	X	X	X	X	X		X	X
6		X	X	X	X	X		X	X
7		X	X		X	X		X	
8		X	X	X	X	X		X	X
9			X	X	X		X		X
10			X	X	X		X		X
11			X	X	X		X		X
12			X	X	X		X		X

(2) The comparable numbers of male and female subjects used in the study was effected intentionally by the researchers. This limitation may lead to the question: "What is the actual male-female ratio of M-A subjects?"

(3) All subjects included in the study were selected on the basis of Spanish surnames. This limitation may lead to the question: "How many others may have mothers of Mexican descent, and what differences exist between them and those whose fathers are of Mexican descent?"

(4) No data were gathered which related to the socio-economic status of the subjects. This limitation may lead to the question: "Is family income a factor in school achievement?"

(5) No effort was made as a part of this study to determine dropout data -- age of dropouts, grade levels in which dropping out most frequently occurs and the ability and achievement levels of dropouts. Investigation into these areas could yield information concerning ways in which Mexican-American students might be encouraged to remain in school and also provide information to educators regarding corrective measures that could be instituted within the schools to reduce the dropout rate.

Age-Grade Relationship

Mean ages for each grade are reported in Table 2. It is evident that an orderly progression is followed from grade to grade throughout the school years with two exceptions: children in grade two are two years older (on the average) than children in grade one, and students in grade seven are two years older than in grade six.

Although the grade samples are relatively small (twelve or thirteen per grade), these findings indicate some delaying factor causing students to lose a year prior to entering grades two and seven. Further research into this phenomenon would be helpful in determining reasons for this occurrence. It should also be noted that the year lost in grade seven is gained in grade eight (median age is fourteen for each grade), and no grade has a median age of thirteen.

TABLE II

AGE - GRADE RELATIONSHIPS

GRADE	AGE 3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Total
PRE	5	*4	4															
K			*8	4														
1				*7	5													
2					5	*5	2											
3						3	*7	2										
4							3	*6	3									
5								2	*6	4								
6									3	*6	3							
7										1	4	*5	2					
8											4	*5	1	2				
9												4	*4	4				
10													5	*3	5			
11														5	*6	1		
12															4	*5	3	

*Median Age for Grade

III. FINDINGS AND INTERPRETATIONS

1. Frostig Findings

Group data from the Frostig, a test designed to measure five distinct perceptual-motor skills, reveal normal perceptual ability among pre-schoolers (mean perceptual quotient of 100). From kindergarten through fifth grade, however, the mean perceptual quotient drops regularly from year to year with only one exception, and grade five registers a mean perceptual quotient of only 74.

The skill lacking most consistently is that of figure-ground, or the ability to perceive various shapes (squares and circles) from a background of many different shapes and sizes. In each grade except pre-school and kindergarten this subscore ranks lowest among the five subtests.

Scores reported on the Frostig are scaled and have been adjusted according to the age of each child taking the test. This suggests that whereas pre-school children (aged three-five) are perceiving normally for those of their age group, children in grades K-5, and especially grades 1-5, where the highest mean perceptual quotient is 89.3, development of perceptual-motor skills falls off sharply to a low of 74.

Normative data is not available for children ten years and older, so scores beyond grade five are of limited comparative value.

It is evident that factors present in the home life and/or school experiences of the Mexican-American students tend to retard their perceptual development in the areas measured by this instrument.

2. Bender Gestalt Findings

Bender Gestalt drawings were obtained for individuals in grades pre-school through eighth. These drawings were examined for perceptual development and pathological implications in the areas of neurological or psychological development, and the results indicated no individuals exhibiting pathology in neurological or psychological development. There was a tendency exhibited by a surprisingly large number of individuals in the fourth, fifth, and sixth grades to use the borders of the paper in order to align their drawings, which is interpreted as basic hesitancy of the individual to draw without some guides or supports.

3. California Test of Personality (C.T.P.) Findings

C.T.P. scaled means were obtained for each grade from one through six and nine through twelve and translated into percentiles. Results on Table 4 show total adjustment to remain the same or increase in grades two, three, four, six, ten, eleven, and twelve. Decreases occur in grades five and nine.

TABLE III

FROSTIG SCORES BY GRADE
Preschool - 6

P.Q.	PRE	K	1	2	3	4	5
I	8.9	9.6	10.1	9.2	8.9	8.3	7.8
II	9.6	9.9	9.2	9.4	8.4	8.7	8.1
III	12.3	9.2	7.1	8.0	7.5	8.3	6.8
IV	9.3	8.3	8.9	8.3	8.3	8.8	7.2
V	9.8	10.0	9.5	9.0	8.3	8.5	7.2
$\bar{X}$	100.0	95.6	89.3	87.2	82.7	85.0	74.0
S.D.	16.65	12.63	14.27	12.34	7.04	8.33	8.35
N	11	12	12	10	12	12	12

TABLE IV

CALIFORNIA TEST OF PERSONALITY BY GRADE

		1	2	3	4	5	6	9	10	11	12
PERSONAL	$\bar{X}$	26.0	25.5	27.9	43.3	41.0	48.0	57.4	64.3	65.0	72.9
	S.D.	1.41	5.3	4.1	7.5	9.6	9.6	13.9	7.5	6.1	8.7
	% ILE	20	20	20	30	20	40	20	30	30	60
SOCIAL	$\bar{X}$	31.3	33.1	36.6	51.2	47.9	55.8	61.7	64.2	66.1	69.8
	S.D.	8.0	4.5	4.5	6.3	10.6	8.2	10.7	10.5	9.7	10.4
	% ILE	20	30	40	30	20	40	20	20	40	50
TOTAL	$\bar{X}$	57.3	58.6	64.1	94.4	88.9	103.8	119.1	128.4	131.1	142.7
	S.D.	8.6	8.3	6.9	12.0	17.3	17.2	22.3	17.3	13.5	17.6
	% ILE	20	20	30	30	20	40	20	30	30	50
	N	4	10	12	12	13	11	12	12	12	12

Social adjustment means remain the same or increase in grades two, three, six, ten, eleven, and twelve. They show a decrease in grades four, five, and nine.

Personal adjustment scores reveal the same pattern shown by total adjustment means.

Except for scores derived from grade twelve, mean percentiles are all between 20 and 40. Grade twelve shows a personal adjustment mean of 60, social adjustment of 50, and total adjustment of 50.

Findings on this test indicate sub-normal personal and social adjustment for all grades tested except grade twelve. The increasing pattern of adjustment shown through the high school years is probably due to a more selective population, i.e., those who did not drop out. The senior class represents the cream of the crop, so to speak.

Decreases in the intermediate grades (four and five) and between six and nine may well reflect the differences encountered by the students with regard to a more difficult, subject-matter oriented curriculum.

4. Vineland Findings

Mean social quotients were obtained for three groupings: pre-school, kindergarten, and first; fourth, fifth, and sixth; and eighth through twelfth. In each case the mean social fell above the population norm, although not to a significant degree.

The finding itself, however, is significant because this is the only instrument used in the study in which the Mexican-American student was shown to be at or above average. It is the feeling of the writers that the evidence points to an often-overlooked fact: the Mexican-American youngster is as responsible and socially mature as any other youngster, and in many ways more so. If this is so, why haven't the schools capitalized on this strength of the Mexican-American? Some possible solutions to this problem are offered in the section on recommendations.

5. California Test of Mental Maturity (C.T.M.M.) Findings

Data on the C.T.M.M. for grades one through twelve reveal slightly below-average ability levels ranging from a high mean total of 98.3 for grade two to a low mean total of 84.3 for grade eleven. There does not appear to be an ascending or descending pattern of grade means.

With regard to differences between language and non-language factors, all grades show higher mean scores on the non-language section with the exception of grades three, four, and five, where the language section is slightly higher. This is not too significant in light of the strong verbal orientation of the C.T.M.M.

TABLE V

VINELAND SCORES BY GRADE

	PRE - 1	4 - 6	8 - 12
Social Quotient	104.3	107.9	103.7
S. D.	15.08	19.93	9.92
N	12	8	18

TABLE VI

CALIFORNIA TEST OF MENTAL MATURITY BY GRADE

	1	2	3	4	5	6	7	8	9	10	11	12
% ILE Language	91.3	93.5	99.7	91.5	90.2	88.3	88.8	89.1	89.0	90.3	82.8	86.3
% ILE Non-Language	94.1	103.3	96.7	89.4	83.3	91.2	91.5	89.7	93.3	97.6	88.1	93.0
% ILE Total	92.6	98.3	96.6	90.1	86.5	89.8	90.4	88.6	91.3	93.3	84.3	89.7
N	11	12	12	12	12	12	11	12	12	11	12	12

6. California Achievement Test (C.A.T.) Findings

C.A.T. data, reported in grade-level achievement, reveal grades two, three, and four to be somewhat above grade level and grades five through eight to be markedly below grade level. The transition period seems to be in grade four, where achievement is almost at grade level in reading and language and somewhat above in arithmetic. It is apparent from these means that measured achievement undergoes a definite change for the worse between grades three and five.

These findings relate closely to the observed scores on the California Test of Personality, where adjustment scores decreased in grades four and five also. This gives added weight to the possible conclusion that in the intermediate grades, where a shift from student-centered to subject-matter-centered emphasis occurs, the Mexican-American student suffers in both personal-social adjustment and academic achievement.

7. Multiple Aptitude Test (M.A.T.) Findings

M.A.T. mean scores obtained only from grades nine through twelve show generally ascending patterns of aptitude. Percentile ranks in reading and arithmetic improve from ninth to tenth and eleventh to twelfth and drop slightly from tenth to eleventh. Language percentiles decrease from ninth to tenth and tenth to eleventh and increase from eleventh to twelfth.

These percentile means show the high school students to fall in the first standard deviation below the population mean.

The generally ascending pattern is probably due to the more selective nature of the population as a result of the increasing dropout rate.

8. Harris-Goodenough Findings

Mean scores on the Harris-Goodenough test were obtained for each grade from pre-school through eighth. Separate scores were recorded for the man drawing and woman drawing with a total composite score. Mean total scores ranged from a low of 85.7 (grade one) to a high of 98.9 (grade two).

The woman score was higher than the man score in each grade except pre-school and sixth, where the man score was slightly higher.

9. Wechsler Intelligence Scale for Children (WISC) and
10. Wechsler Adult Intelligence Scale (WAIS) Findings

Means were computed for two groups on the WISC and WAIS: grades four through six and eight through twelve. In each case the performance score exceeded the verbal score, although in grades four through six the difference was negligible. In grades eight through twelve the difference was considerable: verbal I.Q. was 90.4 while performance I.Q. was 98.2.

TABLE VII

CALIFORNIA ACHIEVEMENT TEST BY GRADE

2-8

	2	3	4	5	6	7	8
Grade Level Reading	2.6	3.4	4.1	4.8	5.3	7.3	8.0
S. D.	.6	.7	.9	.8	1.3	1.2	1.7
Grade Level Language	2.6	3.8	4.0	5.2	6.3	7.5	8.4
S. D.	.8	.8	.9	1.6	1.3	1.4	1.5
Grade Level Arithmetic	3.1	4.1	4.7	5.0	6.0	7.0	7.9
S. D.	.7	.9	.6	.6	.8	1.2	1.7
N	12	12	12	12	12	11	12

TABLE VIII

MULTIPLE APTITUDE TEST BY GRADE 9-12

	9	10	11	12
Reading % ILE	25.8	33.2	23.7	36.5
Language % ILE	43.5	37.0	36.8	40.4
Arithmetic % ILE	26.3	33.5	23.8	30.9
N	12	12	12	10

TABLE IX

GOODENOUGH-HARRIS TEST BY GRADE

	PRE	K	1	2	3	4	5	6	7	8
MAN	93.5	90.6	89.0	99.4	90.3	96.6	94.0	95.4	95.7	95.1
WOMAN	92.0	92.6	94.7	100.1	92.0	99.6	95.0	94.9	96.7	96.0
TOTAL	94.9	88.6	85.7	98.9	88.7	93.9	91.9	96.2	93.8	94.0
N	10	10	9	8	9	10	9	11	12	11

TABLE X

WISC AND WAIS SCORES BY GRADES

4-6 8-12

		4-6	8-12	Total
Verbal	X	88.9	90.4	90.0
	S. D.	13.9	21.8	19.8
Performance	X	89.3	98.2	95.9
	S. D.	15.1	14.4	14.6
I. Q.	X	87.9	96.3	94.0
	S. D.	14.2	9.6	11.4
N		7	20	27

Regarding the total scores, the mean for grades four through six was 98.9 and the mean for grades eight through twelve was 96.3. Standard deviations, however, show considerably more variance among the younger group, indicating a more heterogeneous sample. This is probably due to the fact that the younger group consists of a more varied sample, which becomes increasingly selective (homogeneous) as these students move into the upper grades.

Concerning the breakdown of the test into subscores, one or two significant patterns occur. Students in both groups scored lowest in vocabulary. Highest subscores for grades four through six were in digit span, picture completion, and coding, while highest subscores for grades eight through twelve were in coding, block design, and object assembly.

Tables 11 and 12 show profiles for subscores on the WISC and WAIS. It is significant that the vocabulary score is lowest for both instruments, and the highest subscores occur in the performance areas.

TABLE XI

WISC PROFILE 4-6

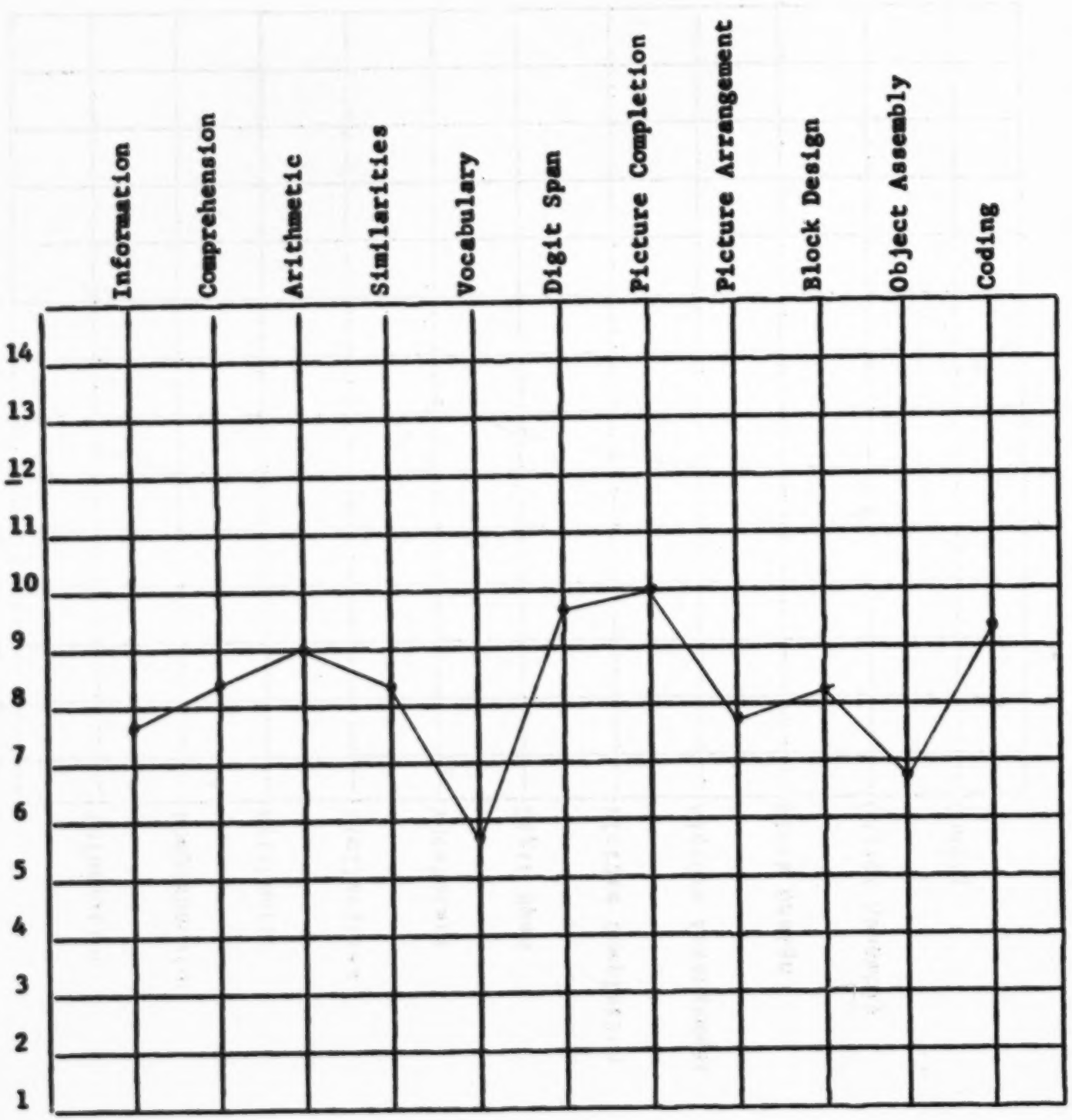
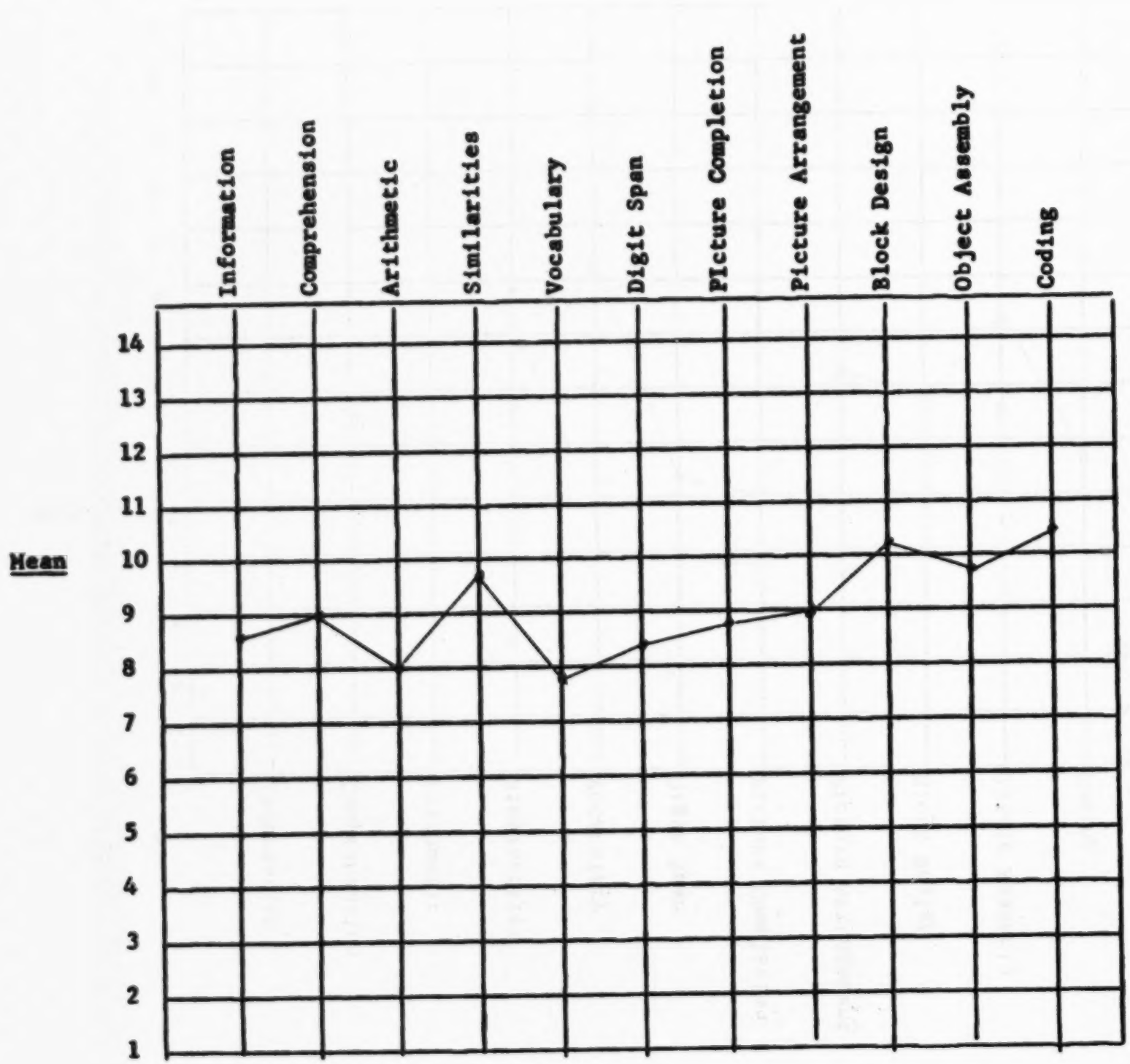


TABLE XII

WAIS PROFILE 8-12



IV. CONCLUSIONS AND RECOMMENDATIONS

Note: The following conclusions and recommendations are the result of careful consideration by the authors of the objective data in light of their personal professional experience. The value of these conclusions lies in their generating recommendations for both curriculum and educational techniques specifically designed to focus on the strengths and weaknesses of the Mexican-American population. It is not intended that the findings of this assessment program in and of themselves verify the conclusions and recommendations. Rather, these conclusions and recommendations are still to be explored in greater detail as they are carried out and tested in the field.

Conclusions in the Perceptual-Motor Category

The Mexican-American students in Wasco tend to fall progressively behind the normative population in perceptual-motor development. These students do, however, appear to have similar basic ability to the normative population at the pre-school and kindergarten level; thus the progressive deficit in perceptual-motor development is attributed to both home and school environment.

Central to the comparative lack of perceptual-motor development in the Mexican-American dropouts' homes appears to be the lack of stimulating work and play objects concomitant with those in the normative population. Reasons that these work and play objects are not present appear to be many, but here is a sample of some of the more important:

(1) Ignorance of the parents concerning the development level of work and play objects;

(2) Lack of interest by the parents concerning what the children play with;

(3) Lack of sufficient time for children to play due to the necessity for work requiring very little in perceptual-motor developmental tasks;

(4) Lack of finances to purchase the work and play objects associated with perceptual-motor experiences that are provided for the normative group.

The schools appear to perpetuate this progressive deficit by their insistence on continuing educational programs at the primary level assuming that all children have similar perceptual-motor experiences in the home. This assumption allows for the elimination of valuable pre-school and kindergarten type perceptual-motor experiences in favor of more academic type experiences in the second through fifth grades, and especially in the third, fourth, and fifth grades.

The consequences appear to be a lack of perceptual-motor background experiences that are so critical to the continual development of basic academic skills.

Recommendations in the Perceptual-Motor Category

What can the schools do to overcome the progressive retardation that characterizes the perceptual-motor development of Mexican-American students in the Wasco elementary schools?

Curriculum Recommendations

(1) There should be an inclusion of progressively sophisticated perceptual-motor experiences designed to sharpen the perceptual-motor skills of the Mexican-American students. Much of what is done in pre-school and kindergarten should be continued in a more progressively sophisticated level from the first through sixth grades. Some specific examples of these experiences are: the use of puzzles, coloring books, find-the-hidden-object-in-the-drawing games, Scrabble, and more current sophisticated curricular innovations in the area such as the materials of Gesell and Frostig. The inclusion of these perceptual experiences should be central to the regular curricular program indicating that both time and thought must be given to their inclusion.

(2) The availability of such materials would result from having a central disseminating library of materials easily accessible to both home and school. The use of the materials by the school would follow along the lines of the traditional library. Teachers would be encouraged to check out and use the materials in their regular school and physical education activities. These materials would also be made available for the children to take home. Length of time and the condition of the material on their return would be realistically and liberally interpreted.

(3) Materials designed to heighten the perceptual-motor development would also be made available as part of the playground and recess experiences. It should be emphasized that the serious needs these children have in the perceptual-motor field require the reinterpretation of what supplies are made available to children during recess.

(4) Writing games should be introduced designed to sharpen the awareness of the size and shape of letters. The subject areas of special concern for the introduction of such perceptual concepts would be language and writing.

Educational Technique Recommendations

(1) The extensive use of pre-service and in-service education to make clear to the pre-school through sixth grade teachers the nature of perceptual-motor development in children should be made a part of the school program. Of special significance would be the re-education of teachers as to what is more important in light of the educational development of these children. Specifically, the work of individuals like Gesell and Frostig would be of special significance.

(2) The person charged with community coordination should be used to educate the parents of the perceptual-motor needs of their children. The education of parents concerning the different toys available to children

at different age levels should be made a part of adult education programs. The use of both the community coordinator and the adult education program to acquaint the parents to the value and function of the perceptual-motor library should also be considered critical.

(3) The hiring of reading specialists who have special knowledge and training in the relationship between perceptual-motor development and reading would provide invaluable assistance in the continual in-service training of teachers. Their help to the Mexican-American population would be of great importance.

Conclusions in the Social and Emotional Categories

The Mexican-American population in the Wasco schools tends to see itself in a less favorable way than the normative population. Its self-concept seems permeated with feelings of inadequacy and low self-esteem in both home and school environment. In spite of their low self-concept, social maturity tended to be considerably higher than that of the middle-class normative population.

It seems that when the Mexican-Americans are questioned about themselves, they see themselves in an unfavorable light; yet when an objective evaluation is made of their social ability and contribution in their total home and school environment, they rank fairly high. This type of discrepancy between group self-concept and social maturity would not seem to be the rule in the middle-class normative population. That is, if a group of children scores high on social maturity, it might be expected that they would also achieve high measures in the self-concept category of emotional adjustment. The question that arises then is why does such a discrepancy occur between the Mexican-Americans' subjective feelings of personal worth as measured by the California Test of Personality (C.T.P.) and the objective evaluation of their social adjustment as measured by the Vineland Social Maturity Scale?

Regarding the Mexican-Americans, both the C.T.P. and the Vineland are middle class measures with similar biases. The discrepancy between the measures might be expected to exist between self-concept and social maturity for the Mexican-American population even if the measures tended to be lower because of the cultural bias. The answer to the discrepancy might then be only partially attributed to biased instruments.

What follows is an effort to infer psychological characteristics of a subculture with instruments developed for, by, and administered by individuals from predominantly middle-class culture. The authors conceive of the possibility that an instrument constructed by the Mexican-American population for Mexican-Americans might indicate the middle-class population to be deviant in a negative fashion from the normative population. Indications from the present measures of personal adjustment used by this study suggest that the self-concept of the Mexican-American in his own culture is more positive. Since, however, no such test is available, the possibility of assessment of the self-concept of the Mexican-American removed from the middle-class norms will remain speculative.

The Mexican-American students in Wasco tend to live in two cultures, each with its respective demands on the individual. The Mexican-American home expects that the children assume many responsibilities which was reflected by the high scores on the Vineland Social Maturity Scale. Following are some major examples: (1) the self-care of young children at an early age; dressing, personal hygiene, self-feeding, playing alone, going to the store, etc.; (2) the care of younger siblings; (3) the helping in home management by doing a significant share of the housework; (4) the helping of the family by earning money for the general support of the home; (5) the assumption of adult roles in major decision-making processes in the home.

The middle-class culture, through schools and other socializing agencies such as police, church, radio, television, books, etc., makes its own demands. Some examples are: (1) the speaking of English; (2) doing school work; (3) continuing education beyond high school; (4) buying stylish clothes; (5) valuing nice homes and cars; and (6) having light skin.

A conflict can be expected to arise when the Mexican-American is forced to adjust to the demands of the two cultures. For example, if adjustment involved working hard and helping support one's family, there would be no need for the Mexican-American males to feel uncomfortable or guilty about quitting school in order to assume this role. The middle-class demands, however, force them to feel guilty for wanting to quit school to do what under different conditions would be honorable. This results in guilt feelings regardless of the choice taken. If they quit school to help the family, or perhaps fail to go to junior college for the same reason, society labels them failures. On the other hand, if they remain in school, they fail their inner demands to do right by their parents. This phenomenon dramatized here is repeated every day as the Mexican-American students go from home to school.*

There appears to be a lack of sensitivity to this marginal position of Mexican-American students by both the Mexican-American adults and the schools. The parents fail to realize the magnitude of the effort their children must go through to carry out the day-by-day demands forced upon them. There are no compliments for the nine-year-old girl who cares for two younger siblings all evening instead of playing as middle-class children. Unaware of school demands, the mother simply expects this as she will expect the same child as a teenager to give all her earnings to the family from field work without recognition. It is simply expected.

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*A note of caution in generalizing from this data: although there were some well assimilated Mexican-Americans in the population for whom the group generalization would not apply, the majority were rural, low-income Mexican-Americans, many of whom still work in the fields. Therefore, these generalizations are not to be used to stereotype all Mexican-Americans in all parts of California.

The school, on the other hand, counsels, teaches, encourages, and treats all individuals as if similar home demands were made of the Mexican-Americans as are made of the middle-class children. The result is that no one helps the Mexican-American students cope with guilt feelings resulting from the demands of two equally demanding cultures. The outcome of this process is that many children make a choice and select one culture in which to succeed, thereby refusing to accept the other. Either way, the decision is unwise since they exist in both. The third alternative is to try to exist in both, but the demands are disproportionately large and almost guarantee some degree of failure in both. If a Mexican-American boy goes to college, he pleases society but abandons his parents. If he tries to help his parents, he has trouble succeeding at college and is likely to be labeled uninterested in school.

In the case of some other national, ethnic, or racial groups, the bicultural, marginal persons disappear in one or two generations. Historical, linguistic, agricultural, and simple geographical factors make the problem of the marginal Mexican-Americans an ongoing one. What then can be done to improve the self-concept of the Mexican-American students who already contribute much to their families and to society, and for which they can and should be proud?

Recommendations in the Social and Emotional Categories

What can the school do to overcome the low self-concept manifested by the Mexican-American students concerning both his relationship at home and at school?

Curriculum Recommendation

(1) The introduction into the basic school curriculum of specific curricular programs in the development of self-awareness and socialization skills is recommended starting at the pre-school level and continuing through the twelfth grade. The concept of guidance should be removed from its present peripheral role and be given a special place in the daily school program, particularly in the early age levels. An example of a program that is particularly aimed at development of an adequate self-concept is one developed by Dr. Bessell, from San Diego, and the senior author of this report.

(2) The introduction into the regular school curriculum of materials designed to give the Mexican-American students an idea of who they are is essential. Not only the Spanish, but the Indian and Mexican background should be emphasized. The Mexican-Americans' contributions to the local community, state, and country should be introduced all along the school program, the purpose of which is to help convince the Mexican-Americans of their historical and present contributions to life and culture. The new state readers and materials presently being developed in the State Department Mexican-American Project would be invaluable.

(3) The extension and liberal use of the Spanish language to perpetuate feelings of pride in the Mexican-American children is desirable. The purpose of this is not to detract from the learning of English, but to make the Mexican-American students feel confident about their ability to communicate orally, thus facilitating their learning of English.

Educational Technique Recommendations

(1) Pre-service and in-service training of personnel is paramount to success in this area. The pre-service and in-service training should be for all school personnel, from superintendents to custodians. This training would focus on the emotional and social aspects of the Mexican-Americans and their background and language. The concepts of sensitivity training and other techniques designed to influence significantly the attitudes toward such minority groups would prove invaluable. Pre-service and in-service seminars, conferences, workshops, and courses should be used extensively to educate the people in the schools toward an understanding and appreciation of the background and social makeup of the Mexican-American population.

(2) An effort should be made to increase the guidance services at all levels but particularly at the lower grade levels, pre-school through sixth. The guidance personnel should be hired particularly for their understanding of the emotional and social needs of these children. Their role should be interpreted in such a way that continual, day-by-day contact is established with the teacher, thus insuring the in-service growth of the classroom personnel.

(3) The use of the home-school coordinator, the adult education program, or any other means should be used to educate the parents to the type of encouragement and needs for positive reinforcement by these students.

(4) The provision should be made of an orientation program for all incoming students to inform and reassure them concerning their new situation.

(5) All school personnel and particularly secretaries should undergo training in the pronunciation of Spanish names. This is not to stereotype all Mexican-Americans by Spanish pronunciation of their names; rather the purpose is to make it apparent to the children that district personnel feel they are important enough to have their names pronounced correctly. This is recommended to raise the level of self-esteem of the Mexican-American students.

Conclusions in the Academic-Intellectual Categories

I. Conclusions in the Academic Category

The academic achievement of the Mexican-American population in Wasco was characterized by a progressive drop in achievement throughout the grades. This progression began with normal achievement at the second and third grade and dropped to a year below grade level at the ninth grade. Of particular import to these conclusions were the significant drops at the fourth and fifth grades and at the ninth grade level.

Two significant principles in the education of children in California are concluded to be associated with the progressive retardation that seems to characterize the achievement of the Mexican-American population. The first is the de-emphasizing of individualized instruction at the fourth, fifth, and sixth grades, and the emphasizing of subject matter as it applies to groups of children. The second principle applies to the increasing demands of the ability to abstract on the students as they begin to deal with the demanding body of knowledge they are to learn.

In the beginning years (pre-school, kindergarten, and first grade), there is very much concern with the level at which a child functions. Tasks which are considered too difficult are not imposed on the children, and there is no hesitancy in first grade to start an immature individual at the most elementary levels. Time is made available for perceptual-motor activities critical to the learning of reading, and much is made of each individual's readiness level. As the children progress up to the second, third, and fourth grades, increasingly greater demands are made of the teacher to spend time on certain bodies of knowledge which are considered critical at each age level. As these demands increase, less time is given to the individualized needs of the children. What results is that children particularly linguistically and/or culturally handicapped who are having trouble for other reasons (the discussion of these other reasons is part of the second principle) are placed in group situations far beyond their capabilities, thus beginning the failure cycle.

A second principle in operation is that of the abstraction demands made on the children by the materials at the third grade level. Up until this approximate level, the Mexican-American learners had been learning fairly concrete concepts such as letters, words, numbers, colors, etc. The stories they were concerned with revolved around the learning of specific words. This, however, begins to change progressively beyond the second and third grades. At that time, the child is forced to begin to read and otherwise interact with content predicated on a middle-class norms and home experiences.

The middle-class children themselves are made to start abstracting about homes they don't know, towns they have never seen, and animals they have never observed. Still, the vehicle for carrying the story is predicated on a middle-class environment with which they are surrounded.

The man and his family take a trip in a nice car on nice streets with sidewalks; the mother has blue eyes and the father wears a tie. The story explains a breakfast of poached eggs, bacon, and cereal, and although the place they visit in the social science lesson is one the middle-class children have never seen, the basic vehicle of communication is the same.

The Mexican-American children, on the other hand, are forced not only to abstract to the lesson at hand, as the middle-class child, but also has to generalize to the basic middle-class vehicle of communication. The nice car looks nothing like theirs; where they drive there may be no nice sidewalks; their mother has dark skin and brown eyes, and their daddy wears a tie only to important events. Thus, the Mexican-American children have to abstract first to the middle-class vehicle of communication and many times never manage to get to the basic purpose of the lesson. Add to this the larger demands of homework without the help of a middle-class person and the magnitude of the problem increases.

Since this problem is a progressive one, the gap widens continually between the Mexican-Americans as a group and the normative population. Once the cycle of failure starts, it is difficult to alter because of the increasing number of things the teacher feels she or he has to teach. It should be understood that this principle applies throughout the entire school career of the students.

Some individuals may want to interject an argument at this point concerning the observation that perhaps the key factor at this transitional level lies in the lack of ability of these children in carrying through on their own. Some educators talk about the lack of ability these individuals exercise in not doing home work, etc. This argument is difficult to accept in view of their high ability to handle social responsibility.

II. Recommendations in the Academic Category

Curricular Recommendations

(1) The curriculum throughout all levels, but particularly at the elementary and intermediate grades, should be geared to the experiential base of the population. Of critical importance in this recommendation is the study of English as a second language. Again, the same recommendation made concerning the inclusion of materials related to Mexican-American culture, history, and tradition should be interjected into the curriculum. This is intended not only to make the children feel proud of who they are, but also to provide an experiential background to facilitate learning.

(2) Although not all subjects at the upper grades lend themselves to the interjection of Mexican-American tradition and culture, the majority of subjects can provide such an experiential baseline for learning. Literature, history, Spanish, and home economics classes can all provide a cultural bridge for learning without weakening the learning curriculum at the older age levels.

Educational Technique Recommendations

(1) In-service and pre-service training is suggested for certified personnel in English as a second language and the cultural background and history of Mexican-Americans. Such training might include conferences, classes, and workshops to teach teachers how to carry out such curricular changes in the regular day schedules.

(2) The hiring of a specialist in English as a second language to serve as an in-service instructor and day-to-day consultant to the teachers would be helpful.

(3) The hiring of a specialist in the area of Mexican-American culture and history could facilitate understanding of the unique role of the Mexican-American in all aspects of social development, thus increasing teacher competence in this area.

(4) The emphasis on recruitment of teachers who are Mexican-American and/or speak Spanish is critical. Because of the need to hire many certificated and non-certificated personnel who have not had experience with Mexican-Americans, some systematic orientation should be set up to acquaint them with the needs of this group. A note of caution should be observed here: Although Mexican-American individuals are valuable assets to the system, their being Mexican-American and speaking Spanish is no guarantee of their understanding or sensitivity to the Mexican-American population. Orientation should be made available to all new people hired.

(5) Of particular emphasis in all aspects of the school program should be an evolving effort to place the focus of education on the child and his unique needs, as well as the subject matter. One need not be emphasized to the exclusion of the other.

I. Conclusions in the Intellectual Category

The much-quoted difference between the verbal and performance ability of Mexican-Americans failed to materialize at the lower age levels, and its appearance at the higher grade levels was not sufficient to attach significance to it. The same phenomenon was reported in two separate intelligence tests. In spite of the cultural bias known to be inherent in the three tests used, the WISC-WAIS, C.T.M.M., and Goodenough-Harris, the traditional low I.Q. reported for this group (70 to 85 I.Q. range) was not apparent. All three measured instead clustered within the low average range (89-98).

If the cultural bias known to exist in these tests is considered, a basically normal intellectual ability may be strongly inferred. This assumption of normal intellectual ability for the population examined is considered on the basis of these three tests diagnostically irrelevant. The inclusion of the measured range is presented only as a rather unique characteristic of this particular rural Mexican population. It is difficult to arrive at any conclusions concerning the difference in intellectual range of the present population and other tested Mexican-American populations.

Whatever the reasons for this finding may be, it would appear reasonable to conclude that there are some factors occurring in the Wasco home and school environment which contribute more than other similar areas to the students' intellectual development. Since present data do not show the Wasco schools to have an exceptionally high dropout rate in comparison to similar rural areas, the complimentary nature of this finding to the school district is acknowledged. It would appear that the Wasco schools tend to have more intellectually capable students assessed according to three independent measures of intelligence than other similar areas.

The two main areas of deficiencies in this population were vocabulary and information, both largely dependent upon the experiential background of the individual. All other areas of intellectual ability tended to be within the normal limits.

II. Recommendations in the Intellectual Category

Curricular Recommendations

All study trips taken by classes to enhance the experiential background of these children should be well planned and followed through. The purpose of these study trips should be to expose the students to as many possible situations as are necessary to aid in their intellectual development.

Educational Technique Recommendations

These findings should be made available to certificated personnel and particularly to the psychometric and psychological personnel.

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